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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,591

03/23/2004

Matthew R. Sivik

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05/11/2010

THE LUBRIZOL CORPORATION
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EXAMINER

LANG, AMY T

ART UNIT

PAPER NUMBER

3731

MAIL DATE

DELIVERY MODE

05/11/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/806,591	Applicant(s) SIVIK ET AL.	
	Examiner AMY T. LANG	Art Unit 3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claim 21** is objected to because of the following informalities: lines 1-2 of claim 21 state "the non-polymeric hydrocarbyl substituted dicarbonyl derivative." However there is improper antecedent basis for this compound and should be replaced with "non-polymeric hydrocarbyl substituted derivative" as recited in claim 18. Appropriate correction is required.
2. **Claims 19-22** are objected to because of the following informalities: claims 19-22 each refer and are dependent on claim 1, however, claim 1 has been cancelled. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claims 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al. (US 5,308,514) in view of Smith, Jr. (US 4,966,722).

With regard to **claim 18**, Olson et al. (hereinafter Olson) discloses a grease composition comprising overbased calcium sulfonate containing solid particles of colloidally dispersed calcium carbonate in the form of calcite (column 1, lines 4-16). The grease composition also contains lubricating oil and a salt forming acid (column 4, lines 20-28; column 5, lines 23-26). Olson further discloses the acid as an organic acid, specifically succinic acid (column 4, lines 20-26).

However, Olson does not specifically disclose the succinic as substituted with a hydrocarbyl. Smith, Jr. (hereinafter Smith) teaches that hydrocarbyl substituted succinic acids are well known in the art. Specifically hydrocarbyl moieties comprising an alkyl group from 10 to 20 carbon atoms (column 19, line 60 through column 20, line 31). Since Olson broadly discloses a succinic acid in the grease composition and Smith teaches that hydrocarbyl substituted succinic acids are well known in the art, it would have been obvious to one of ordinary skill in the art at the time of the invention for Olson to utilize the hydrocarbyl substituted succinic acid of Smith.

In addition, Olson teaches that the grease composition may comprise various polymer viscosity index improvers (column 6, lines 8-19). However, Olson does not specifically disclose the viscosity index improvers. Smith teaches

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that ethylene-alpha-olefin copolymers are effective viscosity index improvers in lubricating compositions (column 1, lines 8-17). However, these copolymers tend to produce a haze in the composition. Smith further teaches wherein the addition of hydrocarbyl substituted succinic acids eliminates this haze in a lubricating composition (column 2, lines 40-61). The specific hydrocarbyl substituted succinic acids include hydrocarbyls having from 10 to 20 carbon atoms (column 19, line 60 through column 20, line 31). Therefore, it also would have been obvious to one of ordinary skill in the art for Olson to utilize the viscosity index improver and hydrocarbyl substituted succinic acid of Smith to produce a composition with improved viscosity index and a reduction of haze.

With regard to **claims 19-21**, Smith specifically discloses the hydrocarbyl moiety as decyl, dodecyl, tridecyl, etc. (column 20, lines 27-31).

6. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (5,308,514) in view of Smith, Jr. (US 4,966,722) as applied to claim 18 above, and further in view of Muir (US 4,560,489).

Olson in view of Smith discloses a grease composition comprised of an overbased organic acid, an acid producing compound, and lubricating oil. The Olson composition further comprises compound 12-hydroxystearic from 1 to 6 wt% (column 5, lines 33-42).

While Olson does not explicitly disclose a thickening agent, Muir provides evidence that 12-hydroxystearic acid is a known thickener to a grease

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composition (column 3, lines 9-17). Therefore, Olson in view of Smith and Muir clearly overlaps the claimed thickening agent.

Response to Amendment

7. The Affidavit under 37 CFR 1.132 filed 11/18/2009 is insufficient to overcome the rejection of claims 18-22 based upon Olson in view of Smith applied under 35 USC 103 as set forth in the last Office action because: the showing is not persuasive to rebut the obviousness rejection.

The Affidavit first compares three inventive compositions (G2, G3, and G4) to the succinic acid disclosed by Olson (G1). However, this data only compares Applicant's invention to that of Olson and not Olson in view of Smith. As discussed above, Smith specifically teaches a dodecyl succinic acid, which is the same compound used in inventive composition (G2). Therefore, the data presented only relates to Olson and does show not why the combination of Olson in view of Smith would be non-obvious.

Additionally, as shown on page 3 of the Affidavit, although the comparative grease and the three inventive greases contain the same mole equivalent of succinic acid, the compositions all differ in the amount of oil added and wt% of calcium sulphonate. Therefore, this table is not a proper side-by-side comparison of inventive and comparative data.

The Affidavit then argues the combination of Olson and Smith by stating that Smith relates to the field of lubricants for internal combustion engines that do not contain a grease thickener. However, both compositions relate to lubricating

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compositions and Smith is not used for the entire lubricating structure, only to show that the claimed acid producing compound is well known in the art.

Applicant argues that "if a grease thickener were added to lubricants for internal combustion crankcases, the result would be a lubricant that is unsuitable to lubricate an engine crankcase" (page 6 of Affidavit). However, Smith is only used as a secondary reference to slightly alter the Olson composition and not as the primary reference. Lastly Applicant states that reducing haze, an advantage of the Smith succinic acid, is not a feature associated with greases. However, Applicant has not provided any evidence to support this opinion and both US 6,676,733 (column 34, Table K) and US 6,239,083 (column 4, lines 47-52) teach removing or reducing haze in a grease composition.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY T. LANG whose telephone number is (571)272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public

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PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

05/07/2010
/Amy T Lang/
Examiner, Art Unit 3731

/TODD E. MANAHAN/
Supervisory Patent Examiner, Art Unit 3734